

# 5 REASONS WHY AMD RYZEN™ 3000 AND 5000 SERIES PROCESSORS ARE PERFECT FOR DEDICATED HOSTING

## AT A GLANCE

AMD Ryzen™ 3000 and 5000 series processors are textbook solutions for dedicated server offerings. Consider this: high clock speeds and high core counts on the “Zen 3” architecture, combined with attractive pricing, can accelerate time-to-profit for hosters. Broad ecosystem verification and support offer peace of mind. Widespread deployment reinforces AMD Ryzen as a market-proven choice, and enterprise-grade features seal the deal for reliable operations.

1

### OUTSTANDING PERFORMANCE

AMD Ryzen processors **deliver A+ performance** on a variety of server workloads. AMD Ryzen 9 series processors outperform Intel® Xeon® E processors in a geometric mean of several Linux® server performance tests, according to a recent article published on Phoronix.<sup>1</sup>

2

### BROAD ECOSYSTEM SUPPORT

AMD Ryzen processors are **tried and tested by key hosting ISVs** including AlmaLinux, CloudLinux, and Virtuozzo®. They are compatible with popular control panels such as cPanel® and Plesk®. In addition, Phoronix has verified AMD Ryzen processor compatibility across major Linux distributions and Windows®.<sup>2</sup>

3

### MARKET-PROVEN

As of Q1, 2022, AMD Ryzen processors are deployed in more than 100,000 dedicated servers in Europe alone.<sup>3</sup> They are **in high demand** in the United States and Australia for use **as dedicated and virtual private servers (VPSs)**. Executives from dedicated hosting customers like FiberHub and ServerMania have articulated the value of AMD Ryzen processors for their businesses.<sup>4</sup>

4

### ENTERPRISE-GRADE

AMD Ryzen processor-based servers offer innovative hardware-based security to help protect data. In addition, error correcting code (ECC) memory support helps increase uptime, while a baseboard management controller (BMC) enables report management that is critical for data center operations.

5

### MORE FOR YOUR MONEY

At similar price points, an AMD Ryzen 9 5900X processor offers **12 cores and 24 threads** at 4.8 GHz max boost frequency,<sup>5</sup> whereas an Intel Xeon E-2388G processor offers **8 cores and 16 threads** at 5.1 GHz max turbo frequency. Servers running AMD Ryzen processors can demonstrate higher performance per dollar spent on CPUs.<sup>6</sup>

*Continue reading for more technical detail*

# AMD RYZEN FOR DEDICATED HOSTING: IT'S TEXTBOOK! **DEEP DIVE**

## #1 OUTSTANDING PERFORMANCE

- Gain up to 96% more performance<sup>7</sup> and 57% higher average performance/watt on average with 1x servers powered by AMD Ryzen 5950X processors, compared to those powered by a 1x Intel Xeon E-2388G processor.<sup>8</sup>
- Enjoy powerful parallel processing with up to 16 high-performance cores.
- Help ensure applications like cloud gaming and e-commerce respond fast with a max boost frequency of up to 4.9 GHz.<sup>5</sup>
- Accelerate compile times for code development with high core density.
- Take advantage of fast storage with high-speed input/output (I/O).

## #2 BROAD ECOSYSTEM SUPPORT

- Operating systems compatible with AMD Ryzen processors and verified by Phoronix include, but are not limited to, AlmaLinux 8.5, CentOS® Stream 9, Clear Linux 35810, Fedora® Server 35, Ubuntu® 20.04 LTS, Ubuntu 22.04 development snapshot, openSUSE® Leap 15.3, and Windows 11 Pro.<sup>2</sup>
- ASRock® Rack and GIGABYTE™ Technology offer standard and density-optimized rackmount AMD Ryzen processor-based platform options.
- Plesk and cPanel confirm compatibility of their popular control panel software on AMD Ryzen processor-based platforms.

## #3 MARKET-PROVEN

"We began switching from Intel to AMD because of customer demand. About half of our servers are now using AMD Ryzen and EPYC processors, and the retention rate of customers using those systems is very high."

– Justin Blanchard, CMO, ServerMania

## #3 MARKET-PROVEN (CONTINUED)

- "When we switched, ... we saw exceptional reduction in our power consumption and physical footprint ... and per-core single-threaded performance is excellent."

– Rob Tyree, President and CTO, FiberHub

## #4 ENTERPRISE-GRADE

- Help protect sensitive data from sophisticated attacks and avoid downtime with AMD Ryzen processors' multi-layered, hardware-based approach to security.
- Provide strong data-protection capabilities with AES-128 memory encryption.
- Automatically correct many data errors to help protect from potential crashes or data corruption with an ECC-enabled memory subsystem.
- Remotely manage servers with BMC and iKVM (remote control capabilities for keyboard, video, and mouse).

## #5 MORE FOR YOUR MONEY

- Enjoy 47% better performance per dollar on average spent on CPUs with 1x servers powered by AMD Ryzen 7 5800X processors, compared to Intel Xeon E-2388G processors, when running application development, audio or video, raytracing or rendering, and traffic encryption or crypto workloads on the Phoronix Test Suite.<sup>6</sup>
- Help reduce power usage and support sustainability efforts with CPU thermal design power (TDP) as low as 65W.
- Allow for low-cost VPS offerings with up to 16 physical cores at attractive pricing.

LEARN MORE AT [WWW.AMD.COM/EN/SOLUTIONS/HOSTING](http://WWW.AMD.COM/EN/SOLUTIONS/HOSTING)

## FOOTNOTES

<sup>1</sup> Phoronix. "AMD Makes A Compelling Case For Budget-Friendly Ryzen Dedicated Servers." March 2022. Page 17. [www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=17](http://www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=17). Testing not independently verified by AMD.

<sup>2</sup> Phoronix. "Windows vs. Linux Benchmarks For AMD Ryzen Server Performance." March 2022. [www.phoronix.com/scan.php?page=article&item=ryzen-server-os&num=1](http://www.phoronix.com/scan.php?page=article&item=ryzen-server-os&num=1). Testing not independently verified by AMD.

<sup>3</sup> Based on AMD Ryzen processor sales data to dedicated hosting customers.

<sup>4</sup> AMD customers have provided permission to be quoted.

<sup>5</sup> Max boost for AMD processors is the maximum frequency achievable by a single core on the processor running a bursty single-threaded workload. Max boost will vary based on several factors, including, but not limited to: thermal paste; system cooling; motherboard design and BIOS; the latest AMD chipset driver; and the latest OS updates. Learn more at [www.amd.com/en/support/kb/faq/cpu-pb2](http://www.amd.com/en/support/kb/faq/cpu-pb2).

<sup>6</sup> R45-006: Application development, audio/video, raytracing/rendering, and traffic encryption/crypto workloads performance/CPU\$ based on Phoronix Test Suite independent testing results at [openbenchmarking.org](http://openbenchmarking.org) as of 03/18/2022. ServeTheWorld hosted configurations using ASRock Rack servers running 16-core AMD Ryzen 9 5950X and 8-core AMD Ryzen 7 5800X, compared to 8-core Intel Xeon E-2388G processors, using the category-mapped workloads. See [www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=1](http://www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=1) for details. AMD 1Ku pricing and Intel [ark.intel.com](http://ark.intel.com) specifications and pricing as of 3/18/2022. Testing not independently verified by AMD.

<sup>7</sup> R45-004: Traffic Encryption (SSL)/Cryptography workloads based on Phoronix Test Suite independent testing results at [openbenchmarking.org](http://openbenchmarking.org) as of 03/18/2022. ServeTheWorld hosted configurations using ASRock Rack servers running 16-core AMD Ryzen 9 5950X and 8-core Ryzen 7 5800X versus 8-core Intel Xeon E-2388G processors using the OpenSSL RAS4096/SHA256 and SecureMark TLS workloads. See [www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=1](http://www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=1) for details. AMD 1Ku pricing and Intel [ark.intel.com](http://ark.intel.com) specifications and pricing as of 3/18/2022. Testing not independently verified by AMD.

<sup>8</sup> R45-005: Application development, audio/video, raytracing/rendering, and traffic encryption/crypto workloads performance based on Phoronix Test Suite independent testing results at [openbenchmarking.org](http://openbenchmarking.org) as of 03/18/2022. ServeTheWorld hosted configurations using ASRock Rack servers running 16-core AMD Ryzen 9 5950X processors and 8-core AMD Ryzen 7 5800X processors, compared to 8-core Intel Xeon E-2388G processors, using the category-mapped workloads. See [www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=15](http://www.phoronix.com/scan.php?page=article&item=amd-ryzen-server&num=15) for details. AMD 1Ku pricing and Intel [ark.intel.com](http://ark.intel.com) specifications and pricing as of 3/18/2022. Testing not independently verified by AMD.